

*Congressional Inquiry*  
**AR0081**  
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5/18/95

**Montrose Chemical, Los Angeles, California (and related Palos Verdes Shelf)**

**Site Description and Types of Contamination at the Site**

The Montrose Superfund Site contains extensive contamination of several types in many different media. Removal actions are appropriate for addressing only a small number of these. Without remedial actions, vast and highly toxic contamination would continue to threaten human health and the environment entirely unaddressed.

Montrose is a former DDT pesticide manufacturing facility which operated 1947-1982. At peak production, the facility produced hundreds of millions of pounds of DDT per year. Waste DDT, and chlorobenzene, a primary reactant for making DDT, have been found in a multitude of locations. Pure chlorobenzene is what is called a DNAPL. DNAPL in the environment is one of the most challenging of Superfund problems. DNAPL is denser than water and tends to sink into the ground under gravity, contaminating layer upon layer. Once in the groundwater, it continues to slowly dissolve for hundreds or thousands of years if not addressed. This threatens the public drinking water supply.

Chlorobenzene has now spread almost 2 miles from the Montrose plant and can be found at more than 1,000,000 parts per billion in groundwater.

Contamination from Montrose can be found in the following places:

1. There is DDT in surface soils under the former plant site in extremely high concentrations;
2. There is pure DNAPL under the plant above and below the water table that is continuing to move downward and is continuing to contaminate the groundwater;
3. There is DDT in the soils in ditches and public right-of-ways where wastewater and spills collected;
4. There is DDT and chlorobenzene in the groundwater at more than 1,000,000 parts per billion and groundwater exceeds health-based standards more than 1.5 miles from the plant;
5. There is DDT and potentially chlorobenzene in a historic stormwater pathway as Montrose used to dispose of its wastewater into open trenches leading through neighborhoods--these pathways are now buried with shallow soil;
6. DDT dust settled over public neighborhoods in a cloud during the Montrose operations. There is still a potential health risk from DDT in soils in neighborhoods surrounding the plant.
7. There is DDT in the backyards of certain homes along 204th Street as Montrose dumped fill material taken from its plant into a natural ravine in the 1950s -- Once

full, the leveled ravine was used for building houses.

8. There is DDT in the Los Angeles Harbor and Consolidated Slip from the stormwater pathway releases;
9. There is DDT in sediments in the sanitary sewers near the plant as Montrose used to discharge hundreds of thousands of pounds of wastes directly to these sewers;
10. There is DDT in the sediments on the ocean floor off the coast of Palos Verdes due to Montrose's discharge of wastes into the sewer system;
11. There is DDT in the ocean due to direct ocean dumping of wastes by Montrose.

**What activities remained to be undertaken using remedial authorities, when the removal actions were completed?**

Removal actions have addressed or are addressing only a small number of the above types and locations of contamination. Removal actions are being used for the following:

- (7) Ensure the removal of DDT-contaminated fill from the backyards of persons living on 204th Street;
- (9) Remove the DDT-contaminated sediments from the sewer system.

The removal of these forms of contamination is relatively simply compared to addressing DNAPL under the ground or contaminated groundwater. *All* of the remaining types of contamination are more complex and are being addressed by remedial actions. Thus, *the vast majority of contamination at the site is being addressed by remedial actions*. The groundwater remedy, once in place, will likely take at least 30 years to achieve complete cleanup. Determination of a remedy for DNAPL will be highly technical and complex and will require careful attention so that the DNAPL does not escape the remedy into even deeper zones.

**Why are the major remedial alternatives being considered?**

The complex DNAPL contamination problem requires that we first contain the DNAPL so that it can no longer dissolve into the groundwater. We will then go about pumping the groundwater and treating it to safe drinking water levels. The technologies being considered serve these goals. Groundwater containment and cleanup will probably exceed \$30 million in cost. Some of the DNAPL can potentially be pumped from the ground and treated at the same time as the groundwater, thus saving money, but the design must be done right to accomplish this.

For soils, EPA is considering soil vapor extraction to remove chlorobenzene, and some excavation of DDT-contaminated soils near the surface. Costs for these are not yet determined for Montrose. The former plant site will also likely be capped as part of the final

remedy.

**What would be the impact on human health and the environment if the remedial activities are not undertaken?**

All of the contamination listed above, with the exception of that described in (7) and (9), would remain unabated:

- Chlorobenzene DNAPL will continue to contaminate groundwater for thousands of years, resulting in a loss of the groundwater resource that will expand over many miles as time progresses. Water will remain contaminated at levels as much as 50,000 times what is safe to drink. Chlorobenzene causes cancer.
- DDT and chlorobenzene will remain in the back yards of persons where the historical stormwater ditch was located.
- DDT may again migrate from the Montrose site from surface soils, and persons may come in direct contact with DDT in soils in the right-of-ways surrounding the plant.
- Persons may remain exposed to DDT-contaminated dust in their homes in the cities of Torrance and Carson.
- Water fowl will continue to be exposed to DDT along the Dominguez Channel and the LA Harbor.
- Fish will continue to be contaminated by bio-accumulating DDT in ocean sediments and consumed by humans off the Palos Verdes Shelf.